The Road Inventory of Lost Trail National Wildlife Refuge

Marion, MT

Prepared By:
Federal Highway Administration
Central Federal Lands Highway Division
August 2008

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INTRODUCTION

The Transportation Equity Act for the 21st Century (Public Law 105-178) created the Refuge Roads Program. Refuge roads are those public roads that provide access to or within a unit of the National Wildlife Refuge System and for which title and maintenance responsibility is vested in the United States Government. Funds from the Highway Trust Fund are available for refuge roads and can be used by the station to pay the cost of:

(a) Maintenance and improvements of refuge roads.
(b) Maintenance and improvements of:
    (1) Adjacent vehicle parking areas
    (2) Provision for pedestrians and bicycles and
    (3) Construction and reconstruction of roadside rest areas that are located in or adjacent to wildlife refuges
(c) Administrative costs associated with such maintenance and improvements.

The funds available for refuge roads are to be disbursed based on the relative needs of the various refuges in the National Wildlife Refuge System, and taking into consideration:

(a) The comprehensive conservation plan for each refuge;
(b) The need for access as identified through land use planning; and
(c) The impact of land use planning on existing transportation facilities.

To determine the relative needs of the U.S. Fish and Wildlife Service, the Federal Highway Administration (FHWA) was asked to inventory all public access roads and parking lots and provide a condition assessment of each. In 2008 the inventory was expanded to include administrative (service use only) roads and parking lots. An FHWA representative meets with refuge personnel to identify route segments and assign route numbers and functional classifications (See Appendix) for each route. All roads and parking lots are mapped using Trimble GPS units and visually assessed for condition using the RSL method of evaluation developed at Utah State University (See Appendix). Culverts, Gates, Guardrails and Low Water Crossings are also mapped and inspected for any obvious defects.

An estimate is provided, in year 2008 dollars, based on the condition determined by the rating system. Estimates are based upon data and location factors from the 2008 RS Means Heavy Construction Cost Data 22nd Annual Edition. Cost estimates should be evaluated on a case-by-case basis when being used for programming purposes.

Native Surfaced roads and parking lots already inventoried will not be re-inventoried and will not appear individually in report chapters 5, 6 and 8. Mileages and areas of native surfaced roads and parking lots will still appear in all summaries in the report and will remain in the road inventory database. In addition to this report, the FHWA will furnish the condition ratings of each route and segment to the Fish and Wildlife Service in a Microsoft Access database so the data can be included in their Real Property Inventory.

Lost Trail National Wildlife Refuge

Summaries

Route Miles and Percentages by Functional Class and Condition

	Condition Rating (Based on RSL)*										
	Excellent		Good		Fair		Poor		Failed		TOTAL
F. C.	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	MILES
I			0.42	100%							0.42
II	0.11	3.1%	3.26	96.9%							3.37
III											
IV											
V	0.31	3.0%	8.84	84.3%	1.34	12.8%					10.49
Totals	**0.42**	**2.9%**	**12.52**	**88%**	**1.34**	**9.4%**					**14.28**

*For a description of condition ratings for the various surface types see the Appendix.

Route Miles and Percentages by Surface Type and Condition

	Paved Condition Rating [Condition(RSL)]										
	Excellent (19-20)		Good (13-18)		Fair (7-12)		Poor (1-6)		Failed (0)		TOTAL
S. T.	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	MILES
AS											
CO											
Totals											

	Unpaved Condition Rating [Condition(RSL)]										
	Excellent (8-10)		Good (5-7)		Fair (3-4)		Poor (1-2)		Failed (0)		TOTAL
S. T.	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%	MILES
GR	0.42	3.5%	11.45	96.5%							11.86
NA			1.08	44.6%	1.34	55.4%					2.42
PR											
Totals	**0.42**	**2.9%**	**12.52**	**87.7%**	**1.34**	**9.4%**					**14.28**

Square Footage (Parking Areas)

	Condition Rating										
	Excellent		Good		Fair		Poor		Failed		Total
	Square		Square		Square		Square		Square		Square
S. T.	Feet	%	Feet	%	Feet	%	Feet	%	Feet	%	Feet
AS											
CO			612	100%							612
GR			23331	58.5%	16560	41.5%					39891
NA					49983	100%					49983
PR											
Totals			**23943**	**26.5%**	**66543**	**73.5%**					**90486**

Lost Trail National Wildlife Refuge

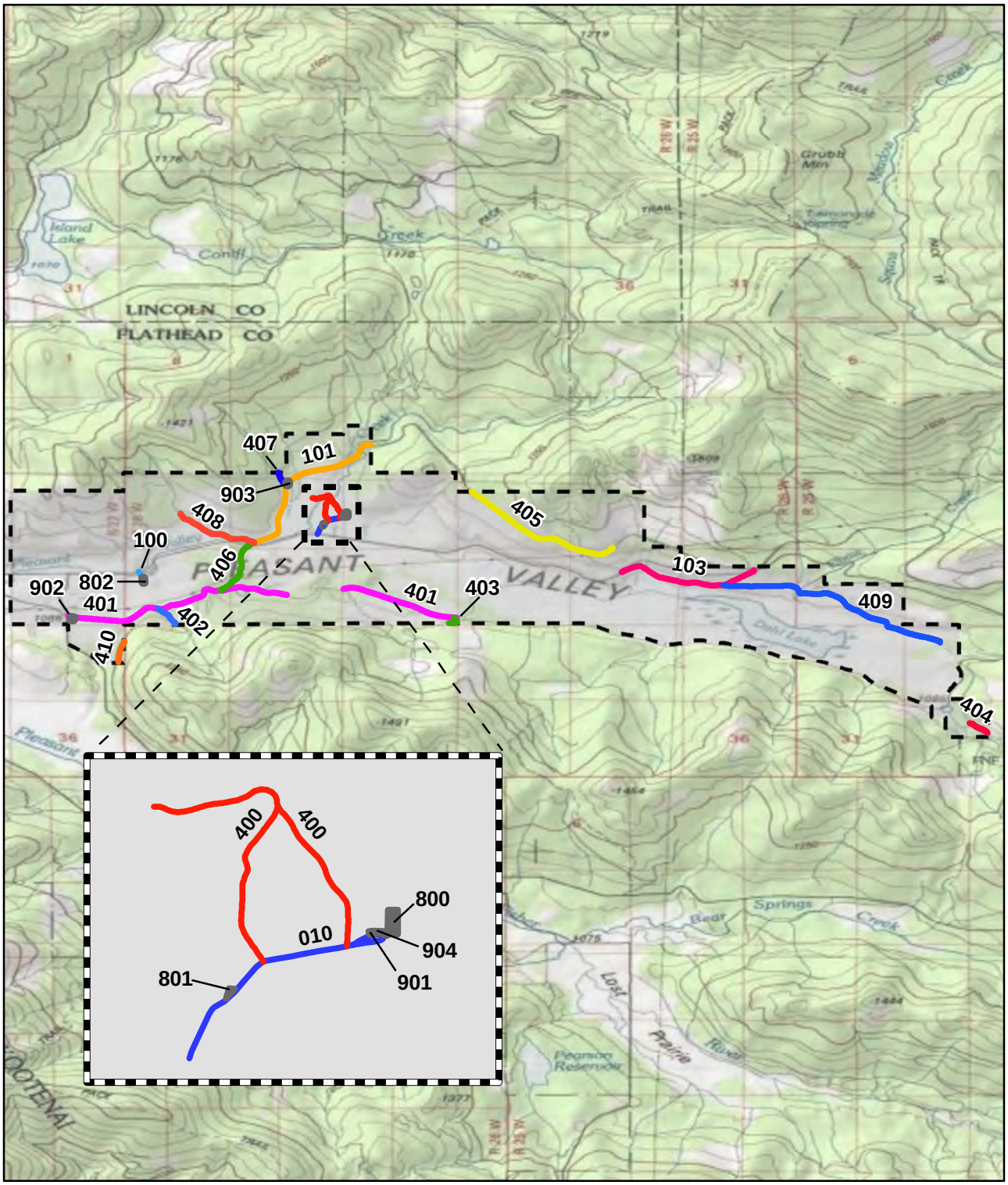
Summaries

Route Miles and Percentages by Use Type and Condition

USE TYPE	Road Condition Rating: Public/Administrative Use										TOTAL MILES	PERCENT TOTAL MILES
	Excellent		Good		Fair		Poor		Failed			
	MILES	%	MILES	%	MILES	%	MILES	%	MILES	%		
Public (FC I-III)	0.11	2.8%	3.68	97%							3.79	**27%**
Admin (FC IV-V)	0.31	3.0%	8.84	84.3%	1.34	12.8%					10.49	**73%**
Totals	**0.42**	**2.9%**	**12.52**	**88%**	**1.34**	**9.4%**					**14.28**	

USE TYPE	Parking Condition Rating										Total Square Feet	PERCENT TOTAL SF
	Excellent		Good		Fair		Poor		Failed			
	Square Feet	%	Square Feet	%	Square Feet	%	Square Feet	%	Square Feet	%		
Public			8558	14.6%	49983	85.4%					58541	**65%**
Admin			15385	48%	16560	51.8%					31945	**35%**
Totals			**23943**	**26.5%**	**66543**	**73.5%**					**90486**	

LOST TRAIL NATIONAL WILDLIFE REFUGE
ROUTE LOCATION MAP



Lost Trail NWR - 61545 - ROUTE IDENTIFICATION LIST (NUMERIC)

Shading Color Key:	White = Paved Routes
	Yellow = Unpaved Routes

RTE #	Asset Number	ROUTE NAME	RTE MI	ROUTE DESCRIPTION	PAVED MI	UN-PAVED MI	LANES	FC
010	-	HQ Entrance Road	0.42	From Pleasant Valley Road to HQ/VC Parking (Route 901)	-	0.42	1	1
100	10026501	Old HQ Entrance Road	0.11	From Pleasant Valley Road to Old HQ Shop Parking (Route 802)	-	0.11	1	2
101	10026501	Refuge Road 1019	1.92	From Pleasant Valley Road to refuge boundary	-	1.92	1	2
103	-	Pleasant Valley Road Access Loop	1.35	From Pleasant Valley Road to Pleasant Valley Road	-	1.35	1	2
400	10026502	Gravel Pit Access Road	0.79	From HQ Entrance Road (Route 102) to gravel pile	-	0.79	1	5
401	10026502	South Pleasant Valley Road	3.27	From Lost Prairie Road to PCTC easement boundary	-	3.27	1	5
402	10026502	North Lund Road	0.26	South Boundary Road (Route 401) to refuge boundary	-	0.26	1	5
403	10026502	Elliott Road	0.14	From South Pleasant Valley Road (Route 401) to south refuge boundary	-	0.14	1	5
404	10026502	Southeast Boundary Road	0.21	From south refuge boundary to approximate PCTC easement boundary	-	0.21	1	5
405	10026502	North Pleasant Valley Road	1.62	From Pleasant Valley Road to north refuge boundary	-	1.62	1	5
406	10026502	Central South Pleasant Valley Access Road	0.70	From Pleasant Valley Road to South Pleasant Valley Road (Route 401)	-	0.70	1	5
407	10026502	Bliese Road	0.18	From Refuge Road 1019 to refuge boundary	-	0.18	1	5
408	10026502	1019 Spur Road	0.81	From Refuge Road 1019 (Route 101) to end of distinguishable route	-	0.81	1	5
409	10026502	Southeast Pond Access Road	2.23	From Pleasant Valley Road Access Loop (Route 103) to Southeast Pond	-	2.23	1	5
410	10026502	South Lund Road	0.28	Plum Creek Logging property boundary to South Boundary	-	0.28	1	5

Lost Trail NWR - 61545 - ROUTE IDENTIFICATION LIST (PARKING)

Shading Color Key:	Green = Unpaved Parking Lots
	Blue = Paved Parking Lots

RTE #	ASSET NUMBER	ROUTE NAME	RTE SQFT	ROUTE DESCRIPTION	PAVED SQFT	UN-PAVED SQFT
800	10026507	Shop Parking	16560		-	16560
801	10026507	Residence Parking	2113		-	2113
802	10026507	Old HQ Shop Parking	13272		-	13272
900	10026508	Old HQ Parking	4095		-	4095
901		HQ/VC Parking	3851		-	3851
902		West South Boundary Road Parking	26626		-	26626
903		1019 Parking	23357		-	23357
904		HQ/VC Handicap Parking	612		612	-

CHANGES TO THE FISH AND WILDLIFE SERVICE ROAD INVENTORY REPORT
Lost Trail National Wildlife Refuge - 61545

Routes added to previous inventory: No routes added to previous inventory.

	Rte #	Rte Name		
1.			Rte Desc:	
			Reason for Addition:	
2.			Rte Desc:	
			Reason for Addition:	
3.			Rte Desc:	
			Reason for Addition:	

Routes removed from previous inventory: One route removed from previous inventory.

	Rte #	Rte Name		
1.	101	Refuge Road #1019	Rte Desc:	Just removed section 003
			Reason for Removal:	Not owned by FWS
2.			Rte Desc:	
			Reason for Removal:	
3.			Rte Desc:	
			Reason for Removal:	

Routes modified from previous inventory: Three routes modified from previous inventory.

	Rte #	Rte Name		
1.	900	HQ Parking	Rte Desc:	
			Modification:	Changed name to "Old HQ Parking" for clarification
2.	100	HQ Entrance Rd	Rte Desc:	
			Modification:	Changed name to "Old HQ Entrance Road" for clarification
3.	101	Refuge Road #1019	Rte Desc:	
			Modification:	Shortened to PCTC easement boundary

Comments:

Excellent | Good | Fair | Poor | Failed

Bridge | Gate | Culvert | Deficiency | N

Begin Section | Low Water Crossing | Intersection | Railroad Crossing | Visitor Center

Boat Ramp | Fee Station | Political Boundary | Turnout/Parking | Problem Area

ROUTE: 010 HQ Entrance Road TOTAL LENGTH: 0.42 Miles

ASSET:

RTE DESCRIPTION: From Pleasant Valley Road to HQ/VC Parking (Route 901)

Section Number	001				
Section Length (miles)	0.42				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Gravel				
Number of Lanes	1				
Roadway Width (feet)	14				
Roadway Condition Information					
Condition	Good				
Remaining Service Life (years)	7				
Cost Estimate	$700				
CRV	$278700				

Excellent | Good | Fair | Poor | Failed

Bridge | Begin Section | Boat Ramp | Gate | Low Water Crossing | Fee Station | Culvert | Intersection | Political Boundary | Deficiency | Railroad Crossing | Turnout/Parking | Visitor Center | Problem Area

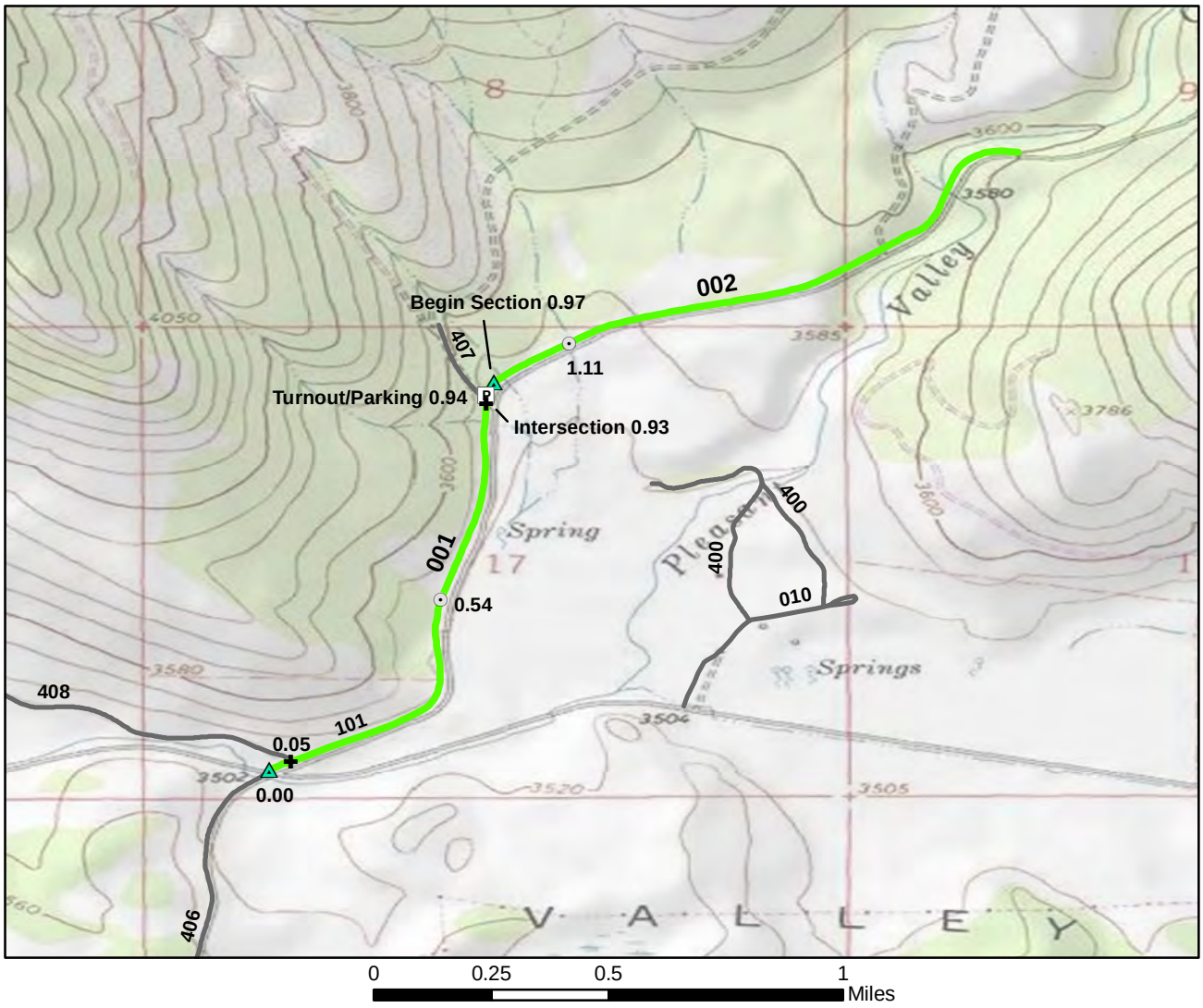
N

ROUTE: 100 Old HQ Entrance Road TOTAL LENGTH: 0.11 Miles

ASSET: 10026501

RTE DESCRIPTION: From Pleasant Valley Road to Old HQ Shop Parking (Route 802)

Section Number	001				
Section Length (miles)	0.11				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Gravel				
Number of Lanes	1				
Roadway Width (feet)	14				
Roadway Condition Information					
Condition	Excellent				
Remaining Service Life (years)	9				
Cost Estimate	$0				
CRV	$70200				



Excellent | Good | Fair | Poor | Failed

Bridge | Begin Section | Boat Ramp | Gate | Low Water Crossing | Fee Station | Culvert | Intersection | Political Boundary | Deficiency | Railroad Crossing | Turnout/Parking | Visitor Center | Problem Area

N

ROUTE: 101 Refuge Road 1019 TOTAL LENGTH: 1.92 Miles

ASSET: 10026501

RTE DESCRIPTION: From Pleasant Valley Road to refuge boundary

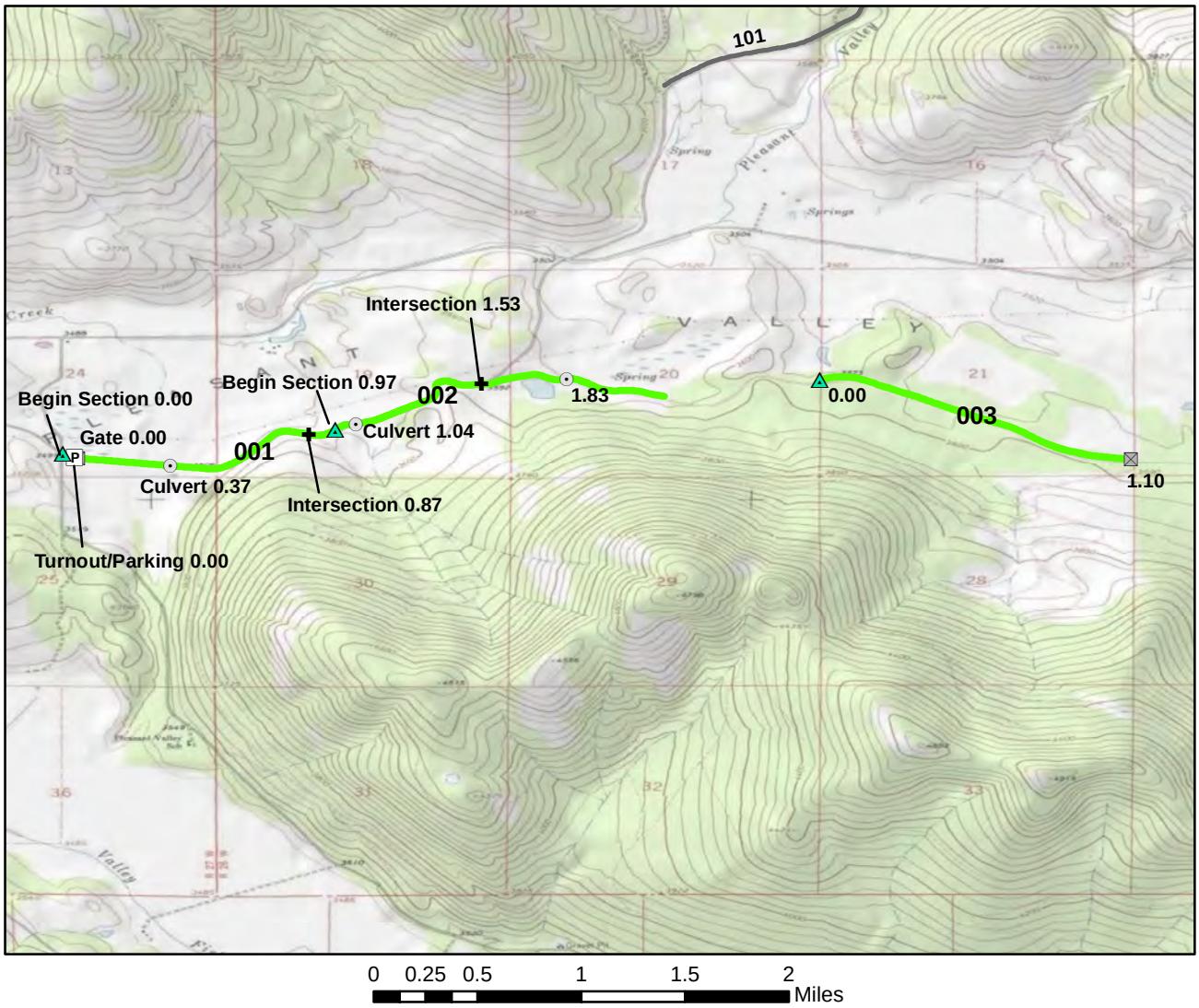
Section Number	001	002			
Section Length (miles)	0.97	0.94			
Inspection Date	8/22/2008	8/22/2008			
Section Information					
Surface Type	Gravel	Gravel			
Number of Lanes	1	1			
Roadway Width (feet)	12	12			
Roadway Condition Information					
Condition	Good	Good			
Remaining Service Life (years)	5	7			
Cost Estimate	$1500	$1500			
CRV	$645300	$627300			

ROUTE: 400 Gravel Pit Access Road TOTAL LENGTH: 0.79 Miles

ASSET: 10026502

RTE DESCRIPTION: From HQ Entrance Road (Route 102) to gravel pile

Section Number	001	002			
Section Length (miles)	0.48	0.31			
Inspection Date	8/22/2008	8/22/2008			
Section Information					
Surface Type	Gravel	Gravel			
Number of Lanes	1	1			
Roadway Width (feet)	12	10			
Roadway Condition Information					
Condition	Good	Excellent			
Remaining Service Life (years)	7	9			
Cost Estimate	$700	$0			
CRV	$317000	$205900			



ROUTE: 401 South Pleasant Valley Road TOTAL LENGTH: 3.27 Miles

ASSET: 10026502

RTE DESCRIPTION: From Lost Prairie Road to PCTC easement boundary

Section Number	001	002	003		
Section Length (miles)	0.97	1.20	1.10		
Inspection Date	8/22/2008	8/22/2008	8/22/2008		
Section Information					
Surface Type	Gravel	Gravel	Gravel		
Number of Lanes	1	1	1		
Roadway Width (feet)	12	12	12		
Roadway Condition Information					
Condition	Good	Good	Good		
Remaining Service Life (years)	5	5	5		
Cost Estimate	$1500	$1900	$1700		
CRV	$643100	$796500	$730600		

Excellent Good Fair Poor Failed

Bridge
Begin Section
Boat Ramp
Gate
Low Water Crossing
Fee Station
Culvert
Intersection
Political Boundary
Deficiency
Railroad Crossing
Turnout/Parking
Visitor Center
Problem Area

N

ROUTE: 402 North Lund Road TOTAL LENGTH: 0.26 Miles

ASSET: 10026502

RTE DESCRIPTION: South Boundary Road (Route 401) to refuge boundary

Section Number	001				
Section Length (miles)	0.26				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Native				
Number of Lanes	1				
Roadway Width (feet)	10				
Roadway Condition Information					
Condition	Good				
Remaining Service Life (years)	5				
Cost Estimate	$400				
CRV	$90400				

ROUTE: 403 Elliott Road TOTAL LENGTH: 0.14 Miles

ASSET: 10026502

RTE DESCRIPTION: From South Pleasant Valley Road (Route 401) to south refuge boundary

Section Number	001				
Section Length (miles)	0.14				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Native				
Number of Lanes	1				
Roadway Width (feet)	10				
Roadway Condition Information					
Condition	Good				
Remaining Service Life (years)	7				
Cost Estimate	$200				
CRV	$47400				

Excellent Good Fair Poor Failed

Bridge
Begin Section
Boat Ramp
Gate
Low Water Crossing
Fee Station
Culvert
Intersection
Political Boundary
Deficiency
Railroad Crossing
Turnout/Parking
Visitor Center
Problem Area

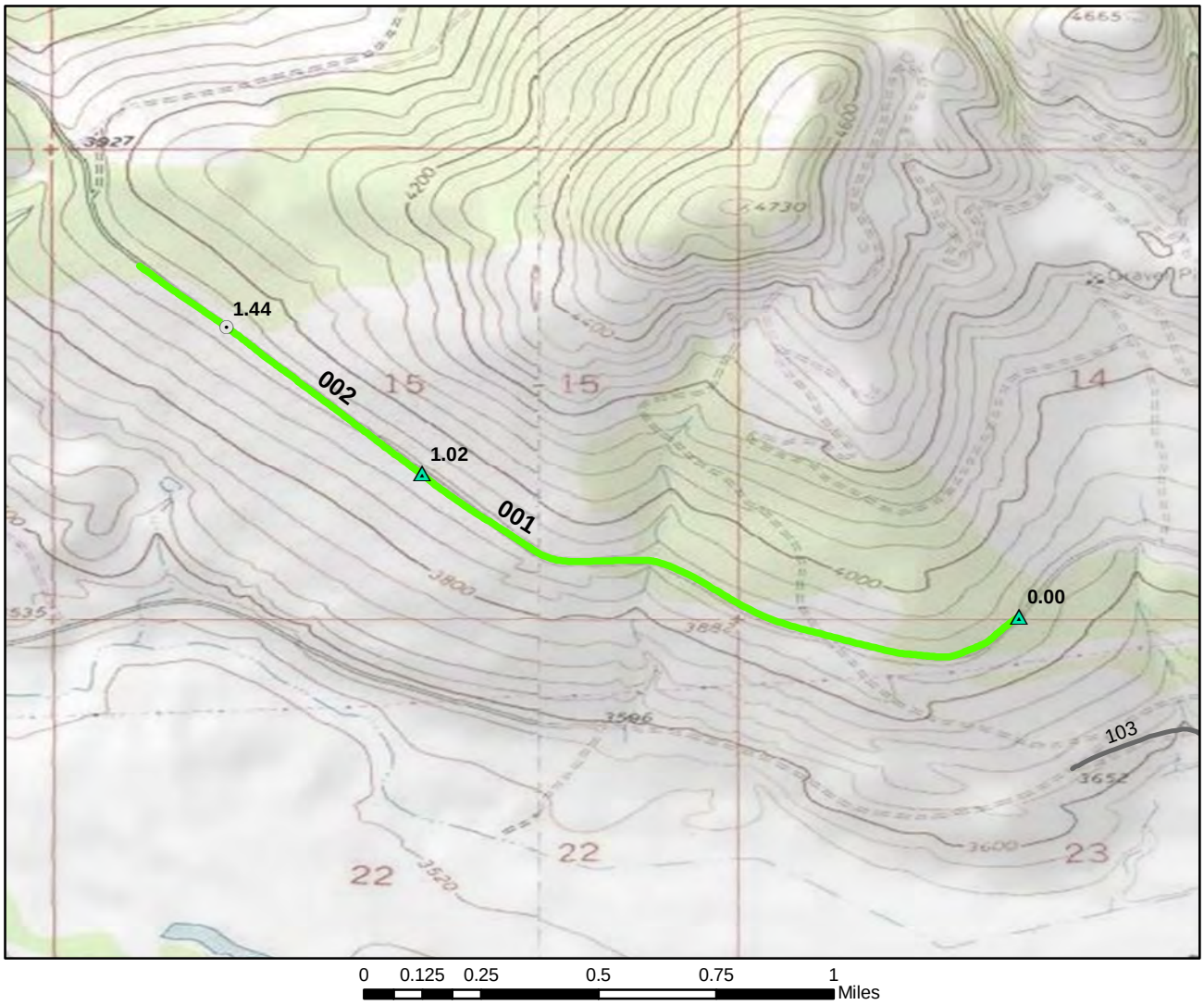
N

ROUTE: 404 Southeast Boundary Road TOTAL LENGTH: 0.21 Miles

ASSET: 10026502

RTE DESCRIPTION: From south refuge boundary to approximate PCTC easement boundary

Section Number	001				
Section Length (miles)	0.21				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Native				
Number of Lanes	1				
Roadway Width (feet)	8				
Roadway Condition Information					
Condition	Good				
Remaining Service Life (years)	5				
Cost Estimate	$400				
CRV	$73500				



Excellent Good Fair Poor Failed

N

Bridge
Begin Section
Boat Ramp
Gate
Low Water Crossing
Fee Station
Culvert
Intersection
Political Boundary
Deficiency
Railroad Crossing
Turnout/Parking
Visitor Center
Problem Area

ROUTE: 405 North Pleasant Valley Road TOTAL LENGTH: 1.62 Miles

ASSET: 10026502

RTE DESCRIPTION: From Pleasant Valley Road to north refuge boundary

Section Number	001	002			
Section Length (miles)	1.02	0.60			
Inspection Date	8/22/2008	8/22/2008			
Section Information					
Surface Type	Gravel	Gravel			
Number of Lanes	1	1			
Roadway Width (feet)	10	10			
Roadway Condition Information					
Condition	Good	Good			
Remaining Service Life (years)	5	5			
Cost Estimate	$1600	$900			
CRV	$675800	$398100			

ROUTE: 406 Central South Pleasant Valley Access Road TOTAL LENGTH: 0.70 Miles

ASSET: 10026502

RTE DESCRIPTION: From Pleasant Valley Road to South Pleasant Valley Road (Route 401)

Section Number	001				
Section Length (miles)	0.70				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Gravel				
Number of Lanes	1				
Roadway Width (feet)	12				
Roadway Condition Information					
Condition	Good				
Remaining Service Life (years)	5				
Cost Estimate	$1100				
CRV	$464000				

Excellent Good Fair Poor Failed

Bridge
Begin Section
Boat Ramp
Gate
Low Water Crossing
Fee Station
Culvert
Intersection
Political Boundary
Deficiency
Railroad Crossing
Turnout/Parking
Visitor Center
Problem Area

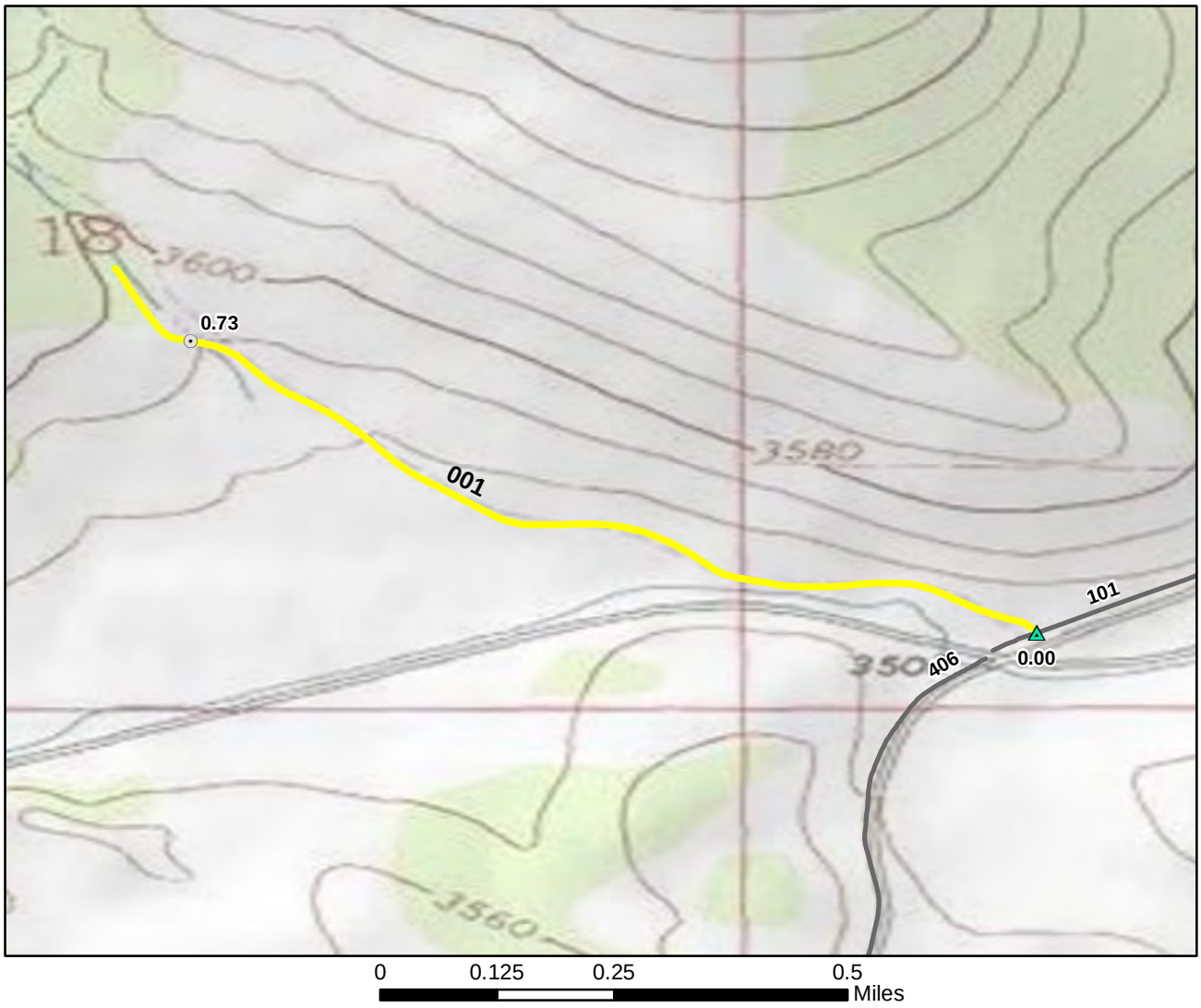
N

ROUTE: 407 Bliese Road TOTAL LENGTH: 0.18 Miles

ASSET: 10026502

RTE DESCRIPTION: From Refuge Road 1019 to refuge boundary

Section Number	001				
Section Length (miles)	0.18				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Native				
Number of Lanes	1				
Roadway Width (feet)	8				
Roadway Condition Information					
Condition	Good				
Remaining Service Life (years)	7				
Cost Estimate	$300				
CRV	$62300				

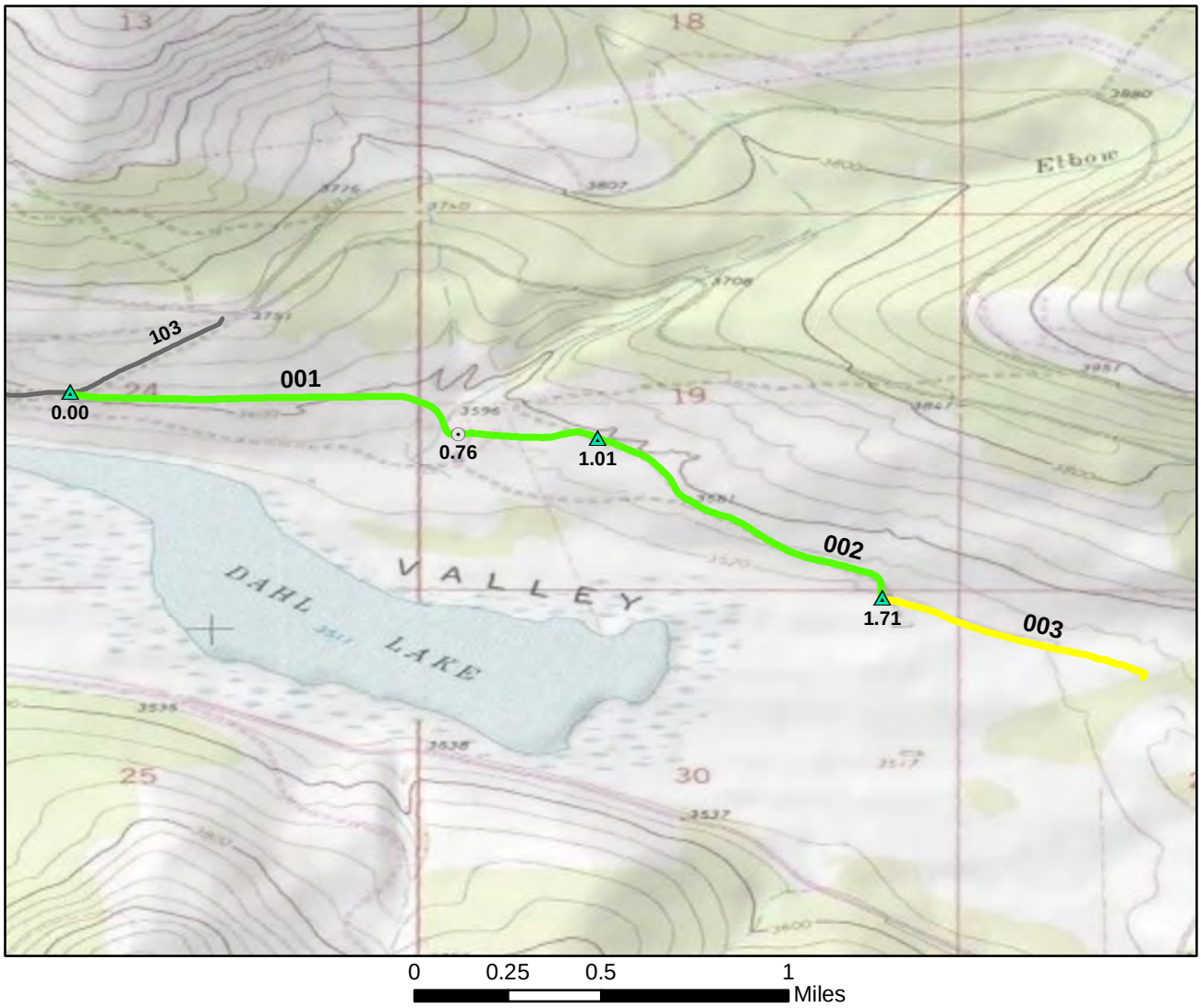


ROUTE: 408 1019 Spur Road TOTAL LENGTH: 0.81 Miles

ASSET: 10026502

RTE DESCRIPTION: From Refuge Road 1019 (Route 101) to end of distinguishable route

Section Number	001				
Section Length (miles)	0.81				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Native				
Number of Lanes	1				
Roadway Width (feet)	8				
Roadway Condition Information					
Condition	Fair				
Remaining Service Life (years)	4				
Cost Estimate	$1700				
CRV	$279400				



Excellent | Good | Fair | Poor | Failed

Bridge | Begin Section | Boat Ramp | Gate | Low Water Crossing | Fee Station | Culvert | Intersection | Political Boundary | Deficiency | Railroad Crossing | Turnout/Parking | Visitor Center | Problem Area

N

ROUTE: 409 Southeast Pond Access Road TOTAL LENGTH: 2.23 Miles

ASSET: 10026502

RTE DESCRIPTION: From Pleasant Valley Road Access Loop (Route 103) to Southeast Pond

Section Number	001	002	003		
Section Length (miles)	1.01	0.70	0.53		
Inspection Date	8/22/2008	8/22/2008	8/22/2008		
Section Information					
Surface Type	Gravel	Gravel	Native		
Number of Lanes	1	1	1		
Roadway Width (feet)	8	8	8		
Roadway Condition Information					
Condition	Good	Good	Fair		
Remaining Service Life (years)	5	7	4		
Cost Estimate	$1600	$1100	$1100		
CRV	$669700	$463300	$180800		

Excellent Good Fair Poor Failed

Bridge
Begin Section
Boat Ramp
Gate
Low Water Crossing
Fee Station
Culvert
Intersection
Political Boundary
Deficiency
Railroad Crossing
Turnout/Parking
Visitor Center
Problem Area

N

ROUTE: 410 South Lund Road TOTAL LENGTH: 0.28 Miles

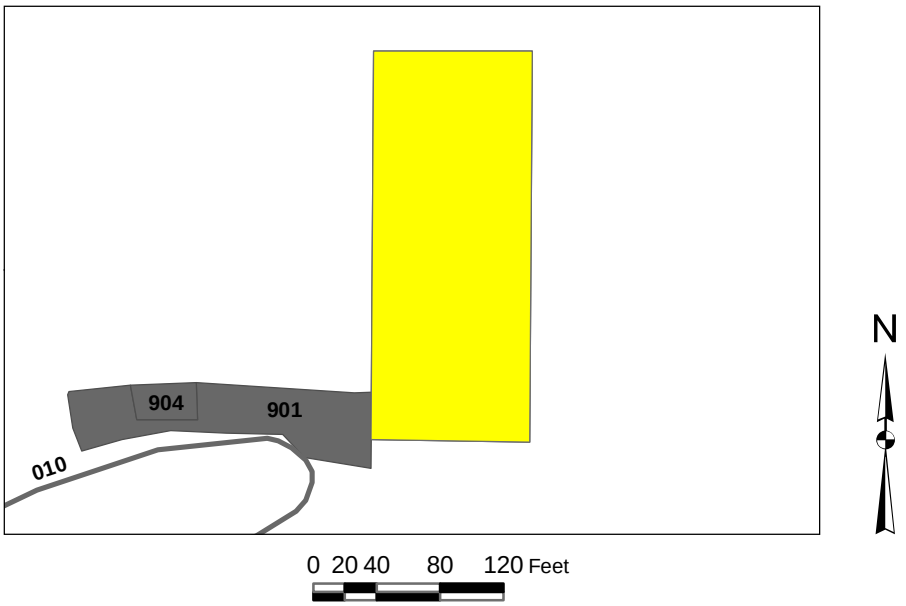
ASSET: 10026502

RTE DESCRIPTION: Plum Creek Logging property boundary to South Boundary

Section Number	001				
Section Length (miles)	0.28				
Inspection Date	8/22/2008				
Section Information					
Surface Type	Native				
Number of Lanes	1				
Roadway Width (feet)	10				
Roadway Condition Information					
Condition	Good				
Remaining Service Life (years)	7				
Cost Estimate	$500				
CRV	$96300				

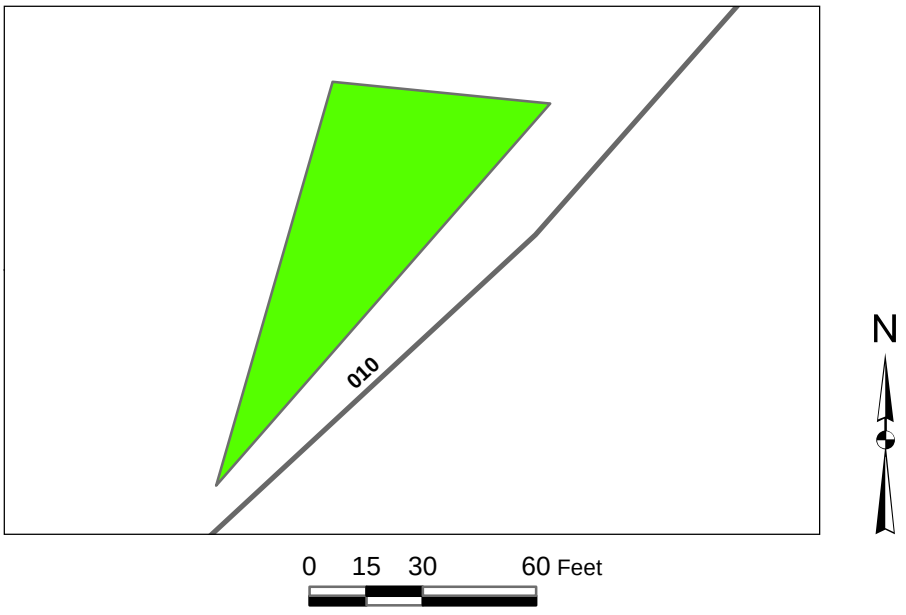
Lost Trail
Route 800: Shop Parking

Asset Number	Date Visited	Surface Type	Area (sq ft)	Condition	Cost to Improve
10026507	8/22/2008	Gravel	16560	Fair	$4200



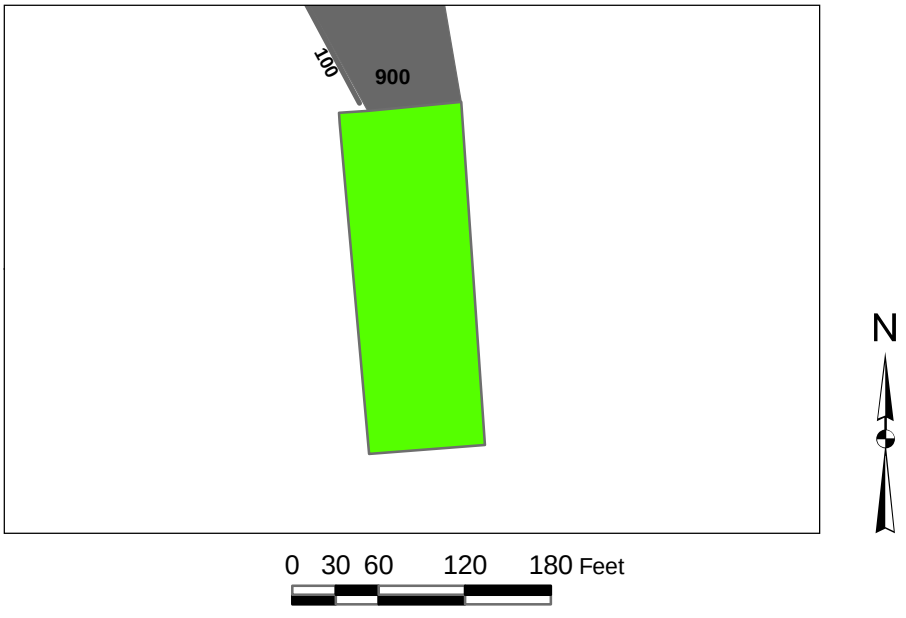
Lost Trail
Route 801: Residence Parking

Asset Number	Date Visited	Surface Type	Area (sq ft)	Condition	Cost to Improve
10026507	8/22/2008	Gravel	2113	Good	$300



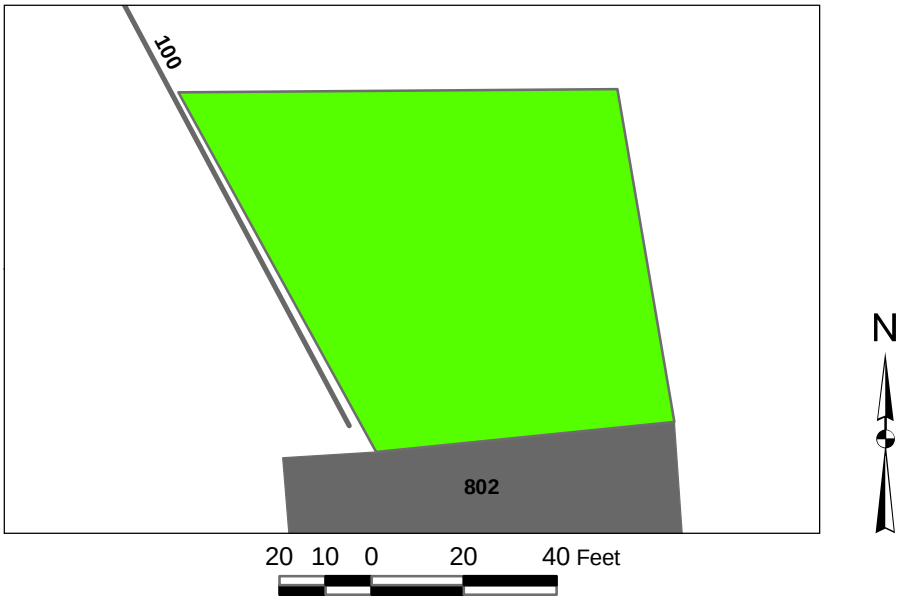
Lost Trail
Route 802: Old HQ Shop Parking

Asset Number	Date Visited	Surface Type	Area (sq ft)	Condition	Cost to Improve
10026507	8/22/2008	Gravel	13272	Good	$1900



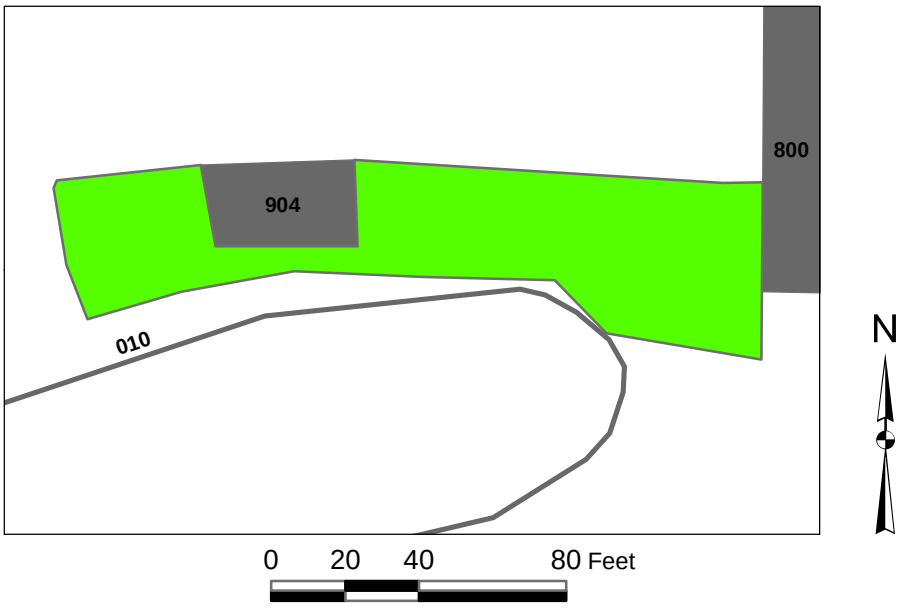
Lost Trail
Route 900: Old HQ Parking

Asset Number	Date Visited	Surface Type	Area (sq ft)	Condition	Cost to Improve
10026508	8/22/2008	Gravel	4095	Good	$600



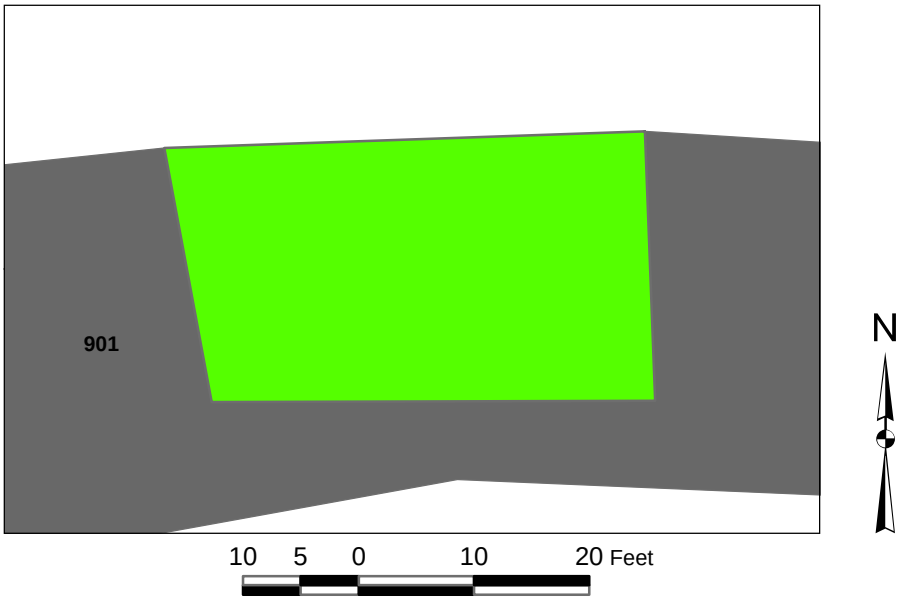
Lost Trail
Route 901: HQ/VC Parking

Asset Number	Date Visited	Surface Type	Area (sq ft)	Condition	Cost to Improve
	8/22/2008	Gravel	3851	Good	600



Lost Trail
Route 904: HQ/VC Handicap Parking

Asset Number	Date Visited	Surface Type	Area (sq ft)	Condition	Cost to Improve
	8/22/2008	Concrete	612	Good	$100



Lost Trail National Wildlife Refuge Bridge Inventory					
Rte #	**Milepost**	**NBIS #**	**Sufficiency Rating**	**Functionally Obsolete**	**Structurally Deficient**
010	0.01	61545-52532	45.6	No	No

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 010 ROUTE NAME: HQ Entrance Road

Photo # 2068 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 010 ROUTE NAME: HQ Entrance Road

Photo # 2067 - MP 0.01 - Bridge

ROUTE NUMBER: 100 ROUTE NAME: Old HQ Entrance Road

Photo # 2070 - MP 0.00 - Begin Route at Begin Section

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 101 ROUTE NAME: Refuge Road 1019

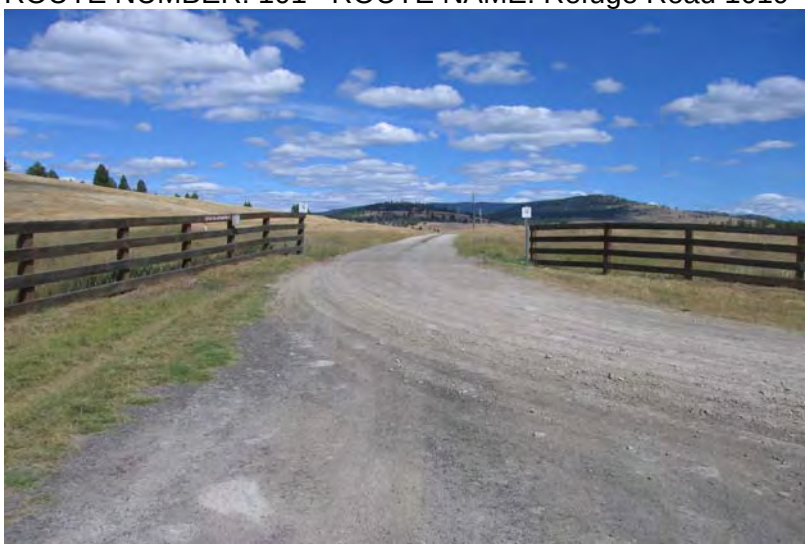


Photo # 2102 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 101 ROUTE NAME: Refuge Road 1019

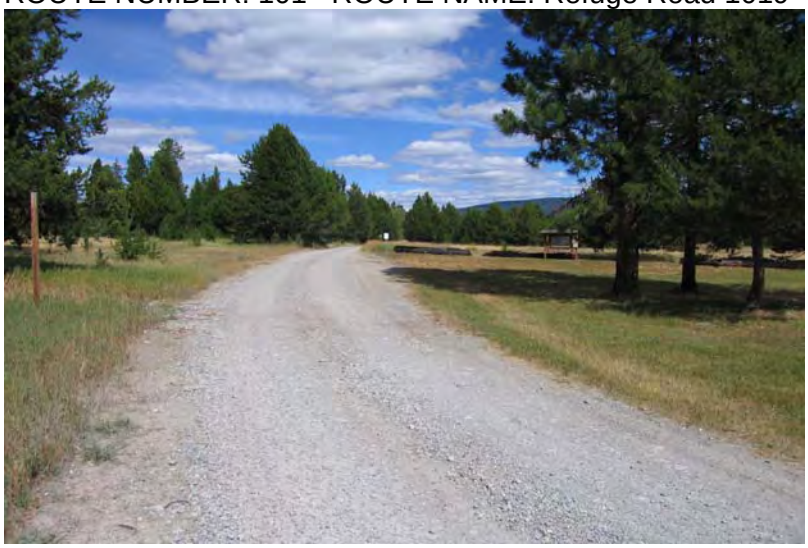


Photo # 2105 - MP 0.97 - Begin Section 002

ROUTE NUMBER: 103 ROUTE NAME: Pleasant Valley Road Access Loop

Photo # 2113 - MP 0.00 - Begin Route at Begin Section

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 103 ROUTE NAME: Pleasant Valley Road Access Loop

Photo # 2117 - MP 1.01 - Begin Section 002

ROUTE NUMBER: 400 ROUTE NAME: Gravel Pit Access Road

Photo # 2061 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 400 ROUTE NAME: Gravel Pit Access Road

Photo # 2065 - MP 0.26 - Begin Section 002

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 401 ROUTE NAME: South Pleasant Valley Road

Photo # 2076 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 401 ROUTE NAME: South Pleasant Valley Road

Photo # 2080 - MP 0.97 - Begin Section 002

ROUTE NUMBER: 401 ROUTE NAME: South Pleasant Valley Road

Photo # 2087 - MP 0.00 - Begin Section 003

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 402 ROUTE NAME: North Lund Road

Photo # 2081 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 403 ROUTE NAME: Elliott Road

Photo # 2089 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 404 ROUTE NAME: Southeast Boundary Road

Photo # 2092 - MP 0.00 - Begin Route at Begin Section

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 405 ROUTE NAME: North Pleasant Valley Road

Photo # 2093 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 405 ROUTE NAME: North Pleasant Valley Road

Photo # 2094 - MP 1.02 - Begin Section 002

ROUTE NUMBER: 406 ROUTE NAME: Central South Pleasant Valley Access Road

Photo # 2097 - MP 0.00 - Begin Route at Begin Section

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 407 ROUTE NAME: Bliese Road

Photo # 2108 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 408 ROUTE NAME: 1019 Spur Road

Photo # 2110 - MP 0.00 - Begin Route at Begin Section

ROUTE NUMBER: 409 ROUTE NAME: Southeast Pond Access Road

Photo # 2116 - MP 0.00 - Begin Route at Begin Section

FEATURES PHOTOGRAPHS

ROUTE NUMBER: 409 ROUTE NAME: Southeast Pond Access Road

Photo # 2121 - MP 1.01 - Begin Section 002

ROUTE NUMBER: 409 ROUTE NAME: Southeast Pond Access Road

Photo # 2122 - MP 1.71 - Begin Section 003

Accident Summary

Number of Accidents Reported	Timespan of Accidents	Injuries	Fatalities
0	No Accidents to Report	0	0

APPENDIX

FWS ROAD FUNCTIONAL CLASSIFICATION	
Class I	Principal Refuge Road (Public Roads) - Routes that constitute the main access route, main auto tour route, or thoroughfare for refuge visitors. These routes are accessible by 2WD vehicles. Routes are numbered from 10 to 99.
Class II	Connector Refuge Road (Public Roads) - Routes that provide circulation within the refuge. These routes can also provide access to areas of scenic, scientific, recreational or cultural interest, such as overlooks, campgrounds, education centers, etc. These routes are accessible by 2WD vehicles. Routes are numbered from 100 to 199.
Class III	Special Purpose Refuge Road (Public Roads) - Roads that provide circulation within special use areas such as campgrounds or public concessionaire facilities or access to remote areas of the refuge. These routes may not be 2WD accessible. Routes are numbered from 200 to 299
Class IV	Administrative Access Road (Administrative Roads) - Routes intended for access to administrative developments or structures such as maintenance offices, employee quarters, or utility areas. These routes are accessible by 2WD vehicles. These routes may restrict access to the general public. Routes are numbered from 300 to 399.
Class V	Restricted Road (Administrative Roads) - Routes normally closed to the public, such as maintenance roads, service roads, patrol roads, and fire breaks. These routes may be open to the public for a short period of time for a special use, such as hunting access. These routes may not be 2WD accessible. Routes are numbered from 400 to 499.

A refuge road system contains those routes within or giving access to a refuge or other unit of the FWS that are administered by the FWS, or by the Service in cooperation with other agencies. The assignment of a functional classification (FC) to a refuge road is not based on traffic volumes or design speed, but on the intended use or function of that route.

DESCRIPTION OF RATING SYSTEM

Rating Data is collected on five different surface types: Asphalt, Concrete, Gravel, Native Improved and Native Primitive. The Utah LTAP Center's Remaining Service Life (RSL) system is used for all surface types. The RSL system is based on the Strategic Highway Research Program's (SHRP) Distress Identification Manual.

Asphalt Rating System

Data is collected on the following distresses and conditions:

- **Fatigue Cracking** - Interconnected cracks forming small irregular shapes.
- **Longitudinal Cracking** - Cracks running parallel with the roadway, in the direction of traffic.
- **Transverse Cracking** - Cracks perpendicular to the roadway, going across the lane or lanes.
- **Block Cracking** - Interconnected cracks forming large blocks.
- **Edge Cracking** – Cracks running along the edge of the pavement surface.
- **Patches** - Original surface repaired with new asphalt patch material.
- **Potholes** - Holes or depressions in the pavement.
- **Rutting** - surface depressions in the wheel paths.
- **Roughness –** Evenness of pavement for serviceability.
- **Drainage** – Ability of the road surface to drain water based on proper slope.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula

Fatigue, longitudinal, transverse, block, and edge cracking, along with patching and potholes are rated on a 0 - 9 scale (0 = no distress, 9 = maximum distress). The rating given is based on the extent and the severity of the distress. Rutting, roughness, and drainage are rated on a 0 - 3 scale (0 = excellent, 3 = poor). Each distress type has a given Remaining Service Life (RSL) value (in years) based on the rating for that distress. The distress rating resulting in the lowest RSL value is considered to be the governing distress. That value is assigned as the RSL of the road segment.

Concrete Rating System

Data is collected on the following distresses and conditions:

- **Spalling of Joints** – Chipping, breaking, or cracking of slab edges
- **Joint Seal Damage** – Any damage or condition that enables materials or water to infiltrate into the joint from the surface.
- **Corner Breaks** – A portion of the slab separated by a crack that intersects the adjacent transverse and longitudinal joints, forming approximately a 45° angle to the direction.
- **Broken Slabs** – Faulting and/or cracking localized to individual slabs.
- **Faulting** – Difference in elevation across a crack or joint.
- **Longitudinal Cracking** – Cracks in the pavement running parallel to road.

- **Transverse Cracking** - Cracks in the pavement running perpendicular to the direction of traffic.
- **Patch Deterioration** – Faulting, settling, or cracking of previously placed patch
- **Map Cracking** – A series of cracks that extend only into the upper surface of the Slab

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula
The rating procedure for concrete pavement is the same as that for asphalt pavement described previously. Each of the distresses described above are rated on the same 0 – 9 scale. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Gravel and Native Improved Rating System

Data is collected on the following distresses and conditions:
- **Cross Section (Gravel, Native Improved only)** - Roadway built so that the center is higher than the
shoulder, to prevent water from pooling on roadway.
- **Roadside Drainage (Gravel, Native Improved only)** - Roadside ditches and culverts to handle water flow and
prevent pooling on the roadside.
- **Corrugations (Washboarding)** - Small trenches or holes developing perpendicular to the roadway.
- **Potholes** - Holes or depressions in the roadway.
- **Rutting** - Depressions running parallel with the roadway, in the wheelpaths.
- **Dust** - Amount of dust caused by traffic.
- **Loose Aggregate (Gravel Only)** - Loose gravel, typically piled up on the roadway edges or centerline.

A Condition Rating value is calculated for each homogenous pavement section, and can be up to 1 mile in length.

Rating Index Formula
The rating procedure for unpaved roads is the same as that for asphalt and concrete pavements described previously. Of the distresses described above, corrugations, potholes, rutting, and loose aggregate are rated on the same 0 – 9 scale previously mentioned. Cross section, roadside drainage, and dust are rated on the same 0 – 3 scale described for asphalt pavement. The governing distress is then determined and the RSL associated with that distress is assigned to the road segment.

Condition Descriptions by Surface Type

The following definitions are used to describe pavement condition for the various surface types. These are general guidelines for condition indications.

Asphalt

Excellent – Recently constructed or overlaid road where construction or overlay was performed correctly- No maintenance required. RSL = 19-20 years.

Good – Low extent longitudinal and transverse cracks. All cracks are 1/4" or less with little or no crack erosion. Patches are in good condition and applied correctly. Routine Maintenance recommended. RSL = 13-18 years.

Fair - Roads are in good structural condition with little or no fatigue cracking. Longitudinal, transverse, and edge cracking is at medium extent and severity. Block cracking is not extensive. Any patches are in good condition. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Road beginning to show signs of structural distress. Fatigue cracking is medium to high extent and medium severity. Cracking will be severe. Surface may have severe block cracking and show. Patches are in fair to poor condition. There is moderate distortion or rutting and occasional potholes. Rehabilitation recommended. RSL = 1-6 years.

Failed - Road is severely deteriorated. Signs of structural failure appear along with severe and extensive fatigue cracking, distortion, potholes, or extensive patches in poor condition. Reconstruction recommended. RSL = 0 years.

Concrete

Excellent - New pavement. No maintenance required. RSL = 19-20 years

Good - First signs of transverse cracking, patch or repair, more extensive pop-outs, or scaling. Sealing or routine maintenance recommended. RSL = 13-18 years.

Fair – Pavement has join or crack spalling, and/or faulting, along with cracking at corners with broken pieces. Any Patches are in fair condition and faulting is at a minimum. Preventative maintenance recommended. RSL = 7-12 years.

Poor - Joints and cracks are open 1 inch, spalled, or patched. Faulting is more severe. Rehabilitation recommended. RSL = 1-6 years.

Failed - Most slabs have failed structurally, and faulting is severe. Reconstruction recommended. RSL = 0 years.11-9

The following table shows the relationship between RSL and condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE (Asphalt and Concrete Pavements)								
	FAILED	POOR		FAIR		GOOD		EXCELLENT
RSL Years	0	1-3	4-6	7-9	10-12	13-15	16-18	19-20

Gravel and Native

Excellent - Newly constructed road that has been constructed properly with proper crown, drainage and gravel layer. Little or no distress. No maintenance recommended. RSL = 8-10 years.

Good - Crown, drainage provisions, and gravel layer are in good condition. Distress limited to traffic effects such as dust, loose aggregate, and low severity corrugations (wash boarding). RSL = 5-7 years.

Fair - Adequate drainage and crown through majority of roadway. Crown repair, ditch improvement may be necessary. Road has more severe corrugations and potholes. Preventative maintenance recommended. RSL = 3-4 years.

Poor - Travel at slow speeds is necessary. Additional gravel layer needed to carry traffic. Poor crown. Ditching is inadequate and rutting is extensive and severe. Rehabilitation recommended. RSL = 1-2 years.

Failed - Travel is difficult, and road may be closed at times. Rutting and Corrugations are very severe. Total Reconstruction of road is recommended. RSL = 0 years.

The following table shows the RSL values for gravel and native roads in terms of excellent,good, fair, poor, and failed condition.

SUBJECTIVE CONDITION RATING FOR REMAINING SERVICE LIFE (Gravel and Native Surfaces)					
	FAILED	POOR	FAIR	GOOD	EXCELLENT
RSL Years	0	1-2	3-4	5-7	8-10